Appendix 2-A

Effects Screening Layer (ESL) Memoranda

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EFFECTS SCREENING LAYER Memoranda

Mason, Bruce & Girard, Inc.
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MEMORANDUM

DATE: November 7, 2003

TO: Art Martin and Maggie Sommer - NOAA Fisheries

FROM: Jon Adkins and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Pacific Salmon and Steelhead Effect Screening Layer

INTRODUCTION

Section 7 of the ESA assures that, through consultation (or conferencing for proposed species) with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NOAA Fisheries), Federal actions do not jeopardize the continued existence of any threatened, endangered or proposed species, or result in the destruction or adverse modification of designated or proposed critical habitat. Table 1 lists Pacific salmon and steelhead Evolutionarily Significant Units (ESUs) that may be affected by OTIA III bridge replacement and repair activities.

Table 1: Oregon Pacific Salmon and Steelhead ESUs, Status and Federal Listing Information

Species	ESU	ESA Status	Critical Habitat Status	Federal Register Documentation
Chinook salmon	Lower Columbia River	Threatened	Under Review	64 FR 14308 65 FR 7764
	Snake River Fall Run and Spring/Summer Run	Threatened	Designated	57 FR 14653 58 FR 68543
	Upper Columbia River	Endangered	Under Review	64 FR 14308
	Upper Willamette River	Threatened	Under Review	64 FR 14308 65 FR 7764
Coho salmon	Northern California / Southern Oregon Coast	Threatened	Under Review	62 FR 24588 64 FR 24049
	Oregon Coast	Threatened	Under Review	63 FR 42587 65 FR 7764
Chum salmon	Columbia River	Threatened	Under Review	64 FR 14508 65 FR 7764
Sockeye salmon	Snake River	Endangered	Designated	56 FR 58619 58 FR 68543
Steelhead	Lower Columbia River	Threatened	Under Review	64 FR 14517 65 FR 7764
	Middle Columbia River	Threatened	Under Review	64 FR 14517 65 FR 7764
	Upper Columbia River	Endangered	Under Review	62 FR 43937
	Snake River Basin	Threatened	Under Review	64 FR 14517 65 FR 7764
	Upper Willamette River	Threatened	Under Review	64 FR 14517 65 FR 7764

GIS SOURCE DATA

Evolutionarily Significant Unit (ESU) data from NOAA Fisheries

ESU boundaries were compiled by the GIS group at the Bonneville Power Administration from various sources based on written descriptions in NOAA Fisheries status reviews and mapping provided by NOAA Fisheries. Initial boundaries were derived from USGS 1:250,000 scale hydrological unit boundaries. Boundaries were modified based on migration blockages and known fish distribution. Drainage basin delineation from blockages was based on 1:100,000 stream hydrography and/or available digital topography (1:250,000).

BIOLOGICAL SIGNIFICANCE

Federally-listed Pacific salmon and steelhead in Oregon are divided into Evolutionarily Significant Units (ESU). An ESU is a collection of one or more salmon populations that share similar genetic, ecological, and life history traits but differ in important ways from salmon in other ESUs. Salmon ESUs are considered to be "distinct population segments" under the federal Endangered Species Act (ESA). Because a species, as defined in the ESA, can include subspecies, salmon ESUs can be listed under the ESA if they are threatened or endangered. Because the ESA does not explain or define how "distinct population segments" should be identified, the NMFS has developed a policy to do this for salmon based on the ESU concept (NWFSC 2003).

ASSUMPTIONS

- ESUs for Pacific salmonid and steelhead do not extend upstream of longstanding, naturally impassible barriers and certain artificial barriers (dams) identified in Appendix A, Amendment 14 to the Pacific Coast Salmon Plan (PFMC 1999).
- Potential effects do not cross 5th field HUC boundaries.

EFFECT SCREENING CRITERIA

Bridges meeting the following criteria will be documented as having no potential adverse effect to the individual Pacific salmon and steelhead ESUs.

- Bridges outside of a designated ESU, except those located where adverse effects to habitat or fish within the ESU downstream of the bridge are possible.
- The Area of Potential Impact (API) does not encompass any waters of the state.

Effects to the Federally-listed Pacific salmon and steelhead may occur as a result of bridge repair or replacement activities within or upstream of any designated ESU. Effects are either water-borne (turbidity, chemical), habitat related (stream channel impacts and riparian impacts) or direct (stream work, flow diversion). Bridge repair or replacement activities in an ESU or upstream of a natural barrier upstream within an ESU may adversely affect that fish or critical habitat within that ESU. Further effects analysis will be possible as the data are received.

REFERENCES

Northwest Fisheries Science Center 2003. Northwest salmon recovery planning. Internet website. http://research.nwfsc.noaa.gov/trt/faq.htm#4. Accessed November 6, 2003.

Oregon Department of Transportation (ODOT). 2003. Draft EFH Analysis for the ODOT Maintenance Programmatic Biological Assessment. Portland, Oregon.

Pacific Fisheries Management Council (PFMC). 1999. Appendix A: Identification and Description of Essential Fish Habitat, Adverse Impacts, and Recommended Conservation Measures for Salmon. Amendment 14 to the Pacific Coast Salmon Plan. Portland, Oregon.

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MEMORANDUM

DATE: November 5, 2003

TO: Nancy Lee and David Leal - USFWS

FROM: Jon Adkins and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Bull Trout (*Salvelinus confluentus*) Effect Screening Layer

INTRODUCTION

The bull trout (*Salvelinus confluentus*) in the coterminous United States was listed as threatened on November 1, 1999 (64 FR 58910). Earlier rulemakings had listed distinct population segments of bull trout as threatened in the Columbia River, Klamath River and Jarbridge River basins (63 FR 31647, 63 FR 42757, 64 FR 17110, respectively) (USFWS 2002).

GIS SOURCE DATA

Bull Trout Draft Recovery Plan boundaries (USFWS 2003)
Bull Trout Proposed Critical Habitat Designation (67 FR 71235)

These data identify (in general) the boundaries for distinct population segments (DPS), recovery units, core areas, core habitat and potential core areas/habitat for bull trout (*Salvelinus confluentus*) across the species' native range as defined by the U.S. Fish and Wildlife Service (FWS) in the "Draft Recovery Plan for Bull Trout" (2002).

BIOLOGICAL SIGNIFICANCE

Bull trout in Oregon are part of either the Columbia River or Klamath River Distinct Population Segments (DPS). There are 22 recovery units within the Columbia River DPS and 1 recovery unit in the Klamath River DPS. Recovery units are composed of: core areas, core habitats, and proposed critical habitat.

ASSUMPTIONS

- *Recovery units* do not encompass mainstem Columbia and Snake Rivers
- Proposed critical habitat is not inclusive of all historically occupied habitat
- *Core habitats* are currently unoccupied by bull trout populations
- Current bull trout presence is restricted to *core areas*
- Bull trout distribution is not ubiquitous throughout *core areas*

EFFECT SCREENING CRITERIA

Bridges meeting the following criteria will be documented as having No Effect to bull trout and proposed critical habitat.

1) Bridges outside any DPS
2) Bridges inside the Columbia River DPS and Klamath River DPS, but not within any recovery unit

3) Bridges inside any recovery unit and greater than 2 miles from proposed critical habitat and core areas

Effects to the species or their habitat may occur as a result of bridge replacement activities within core areas and in proximity to proposed critical habitat and core habitat. Effects are either water-borne (turbidity, chemical), habitat related (stream channel impacts and riparian impacts) or direct (streamwork, fish handling, flow diversion). Bridge replacement activities within 2 miles of core areas and/or proposed critical habitat may result in direct or indirect impacts to both species and habitat. Further effects analysis will be possible as the data are received.

REFERENCES

Federal Register for June 10, 1998 (63 FR 31647). Determination of Threatened status for the Klamath River and Columbia River Distinct Population Segments of Bull trout. Final Listing, Threatened, Final Special Rule.

Federal Register for August 11, 1998 (63 FR 42757). Emergency listing of the Jarbridge River Population Segment of Bull Trout as Endangered. Emergency Listing, Endangered.

Federal Register for April 8, 1999 (64 FR 17110). Determination of Threatened Status for the Jarbridge River Population Segment of Bull Trout. Final Listing, Threatened, Final Special Rule.

Federal Register for November 1, 1999 (64 FR 58910). Determination of Threatened Status for Bull Trout in the Coterminous United States. Final Listing, Threatened.

Federal Register for November 29, 2002 (67 FR 71235). Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for the Klamath River and Columbia River Distinct Population Segments of Bull Trout and Notice of Availability of the Draft Recovery Plan. Proposed Rule and Notice.

U. S. Fish and Wildlife Service, Pacific Region. 2002. Chapter 1, Introduction. *In:* Bull Trout (*Salvelinus confluentus*) Draft Recovery Plan. U.S. Fish and Wildlife Service, Portland, OR. 137 pp.URL: http://ecos.fws.gov/docs/recovery_plans/2002/021129.pdf.

U. S. Fish and Wildlife Service, Pacific Region. February 5, 2003. Bull Trout Recovery Plan boundaries: U.S. Fish and Wildlife Service, Pacific Region, Portland, OR.

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MEMORANDUM

DATE: October 2, 2003

TO: Nancy Lee and David Leal - USFWS

FROM: Kendel Emmerson and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Lahontan Cutthroat Trout (*Oncorhynchus clarki henshawi*) Effect Screening Layer

INTRODUCTION

On July 16, 1970 the Lahontan cutthroat trout was designated as threatened in its entire range (40 FR 29863). Critical habitat has not been designated for this species.

DATA LAYER USED

4th field HUC – Upper Quinn and Alvord

BIOLOGICAL SIGNIFICANCE

According to the Lahontan cutthroat trout recovery plan, Oregon populations of Lahontan cutthroat trout are limited to the Upper Quinn and Alvord 4th field HUCs.

ASSUMPTIONS

The entire range of the Lahontan cutthroat trout (within Oregon) is completely within the 4th field HUCs – Upper Quinn and Alvord.

GIS PROCESS PROPOSED FOR SCREENING

Bridges that are outside of the 4th field HUCs – Upper Quinn and Alvord will have No Effect on the Lahontan cutthroat trout.

REFERENCES

Federal Register for October 13, 1970 (40 FR 29863). Threatened status for three species of trout (Lahontan cutthroat, Paiute cutthroat, and Arizona Trout). Final Reclassify, Downlist threatened. Final Special Rule.

Regional Ecosystem Office. 2002. Hydrologic Unit Boundaries for Oregon, Washington, and California. Vector Digital Data. Portland, Oregon. URL: http://www.reo.gov.

U.S. Fish and Wildlife Service. 1994. Lahontan cutthroat trout, *Oncorhynchus clarki henshawi*, Recovery Plan. Portland, OR. 147 pp.

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MEMORANDUM

DATE: October 3, 2003

TO: Nancy Lee and David Leal - USFWS

FROM: Kendel Emmerson and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Shortnose Sucker (*Chasmistes brevirostris*) Effect Screening Layer

INTRODUCTION

On July 18, 1988 the shortnose sucker was designated as Endangered in its entire range (53 FR 27130). Critical habitat is not designated for the shortnose sucker.

DATA LAYER USED

4th field HUCs: Williamson, Sprague, Upper Klamath Lake, Lost River, and Upper Klamath River.

BIOLOGICAL SIGNIFICANCE

The shortnose sucker is only found in Upper Klamath Lake and its tributaries, Klamath River downstream to Iron Gate Reservoir, Clear Lake Reservoir and its tributaries, Lost River, Tule Lake, and Upper Klamath River from Link River Dam to Copco Reservoir (USFWS 1993).

ASSUMPTIONS

There are no shortnose suckers outside of the 4th field HUCs listed above.

GIS PROCESS PROPOSED FOR SCREENING

Bridges outside of the 4th field HUCs – Williamson, Sprague, Upper Klamath Lake, Lost River, and Upper Klamath River will be documented as having No Effect to the Shortnose sucker.

REFERENCES

Federal Register for July 18, 1988 (53 FR 27130). Determination of Endangered Status for shortnose sucker and lost river sucker. Final Listing, Endangered.

Regional Ecosystem Office. 2002. Hydrologic Unit (HUC) Boundaries for Oregon, Washington, and California. Vector Digital Data. Portland, Oregon. URL: http://www.reo.gov.

U.S. Fish and Wildlife Service (USFWS). 1993. Lost River (*Deltistes luxatus*) and Shortnose (*Chasmistes brevirostris*) Sucker Recovery Plan. Portland, Oregon. 108 pp.

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MEMORANDUM

DATE: October 6, 2003

TO: Nancy Lee and David Leal - USFWS

FROM: Kendel Emmerson and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Lost River Sucker (*Deltistes luxatus*) Effect Screening Layer

INTRODUCTION

On July 18, 1988 the Lost River sucker was designated as Endangered in its entire range (53 FR 27130). Critical habitat is not designated for the Lost River sucker.

DATA LAYER USED

Williamson, Sprague, Upper Klamath Lake, Lost River, and Upper Klamath River 4th field HUCs.

BIOLOGICAL SIGNIFICANCE

The Lost River sucker is only found in Upper Klamath Lake and its tributaries, Klamath River downstream to Iron Gate Reservoir, Clear Lake Reservoir and its tributaries, Lost River, Tule Lake, and Upper Klamath River from Link River Dam to Copco Reservoir (USFWS 1993).

ASSUMPTIONS

There are no Lost River suckers outside of the 4th field HUCs listed above.

GIS PROCESS PROPOSED FOR SCREENING

Bridges outside of the 4th field HUCs – Williamson, Sprague, Upper Klamath Lake, Lost River, and Upper Klamath River will be documented as having No Effect to the Lost River sucker.

REFERENCES

Federal Register for July 18, 1988 (53 FR 27130). Determination of Endangered Status for shortnose sucker and lost river sucker. Final Listing, Endangered.

Regional Ecosystem Office. 2002. Hydrologic Unit Boundaries for Oregon, Washington, and California. Vector Digital Data. Portland, Oregon. URL: http://www.reo.gov.

U.S. Fish and Wildlife Service (USFWS). 1993. Lost River (*Deltistes luxatus*) and Shortnose (*Chasmistes brevirostris*) Sucker Recovery Plan. Portland, Oregon. 108 pp.

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MEMORANDUM

DATE: October 2, 2003

TO: Nancy Lee and David Leal - USFWS

FROM: Kendel Emmerson and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Warner Sucker (*Catostomus warnerensis*) Effect Screening Layer

INTRODUCTION

On September 27, 1985 the Warner Sucker was listed as threatened throughout all of its range (50 FR 39117). Critical habitat is designated for the Warner Sucker (50 FR 39117).

DATA LAYER USED

4th field HUC – Warner Lakes

BIOLOGICAL SIGNIFICANCE

According to the Federal Register (50 FR 39117), habitat for the Warner Sucker is limited to the Warner Valley in South Central Oregon. Specifically, habitat for the Warner Sucker is limited to Crump and Hart Lakes, the spillway north of Hart Lake, and portions of Snyder, Honey, Twenty Mile, and Twelve Mile Creeks. Critical habitat is designated as a 50-ft buffer on portions of the above-listed streams.

ASSUMPTIONS

The entire range of the Warner Sucker (within Oregon) is within the 4th field HUC – Warner Lakes.

GIS PROCESS PROPOSED FOR SCREENING

Bridges that are outside of the 4th field HUC – Warner Lakes will be documented as having No Effect to the Warner Sucker.

REFERENCES

Federal Register for September 27, 1985 (50 FR 39117). Final Critical Habitat – fishes, Final Listing, Threatened. Final Special Rule.

Regional Ecosystem Office. 2002. Hydrologic Unit Boundaries for Oregon, Washington, and California. Vector Digital Data. Portland, Oregon. URL: http://www.reo.gov.

U.S. Fish and Wildlife Service. 1998. Recovery Plan for the Native Fishes of the Warner Basin and Alkali Subbasin. Portland, Oregon. 86 pp.

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MEMORANDUM

DATE: December 16, 2003

TO: Nancy Lee and David Leal (USFWS) and Paul Sheerer (ODFW)

FROM: Jon Adkins and Zak Toledo (MB&G)

SUBJECT: ODOT OTIA III: Oregon Chub (*Oregonichthys crameri*) Effect Screening Layer

INTRODUCTION

The Oregon chub was listed as endangered under the Federal ESA on October 18, 1993 (58 FR 53800). The species currently does not have designated critical habitat and is not represented in different Distinct Population Segments (DPS). Historically, the species was distributed throughout lowland areas of the Willamette River drainage in lowland off-channel habitats such as sloughs, alcoves, and overflow ponds. This Effect Screening Layer was developed through conversations with Paul Sheerer, Oregon Department of Fish and Wildlife (ODFW) Biologist.

GIS SOURCE DATA

Source data were obtained from ODFW Aquatic Inventories Project, Oregon chub sampling data-set (ODFW 2003).

BIOLOGICAL SIGNIFICANCE

According to Sheerer et al. (2003), Oregon chub are endemic to the Willamette Valley of western Oregon. This species was formerly distributed throughout the Willamette Valley from Oregon City to Oakridge, in off-channel habitats such as beaver ponds, oxbows, stable backwater sloughs, and flooded marshes. Currently, there are 32 known populations of Oregon chub; eight are introduced populations.

Survey data were gathered by Scheerer et al. (2003) from the 40 OTIA III bridge sites within the Willamette Basin that are scheduled to begin construction in 2004. Each surveyed site was given a ranking of High, Medium, or Low to describe the relative quality of habitat for Oregon chub. The three rankings are generally defined as follows:

- **High** – Oregon chub present or site determined suitable habitat for chub
- **Medium** – Habitat not significantly degraded, may be most suitable for other native species such as salmonids (e.g., fast water)
- **Low** – Site dominated by non-native fish species, lacks essential habitat elements such as water (i.e., dry channels), or were otherwise degraded (e.g., ongoing grazing and/or cattle access) at the time of the survey.

The remaining bridge sites within the Willamette River Basin that are suspected to either be occupied by Oregon chub or encompass suitable habitat will be surveyed in 2004. The remaining bridges to be surveyed will begin construction no sooner than 2005. This survey and construction

schedule will facilitate application of appropriate conservation measures (performance standards) to protect Oregon chub and their habitat.

ASSUMPTIONS

- Historic distribution is limited to the Willamette River Basin as described by ODFW (2003).
- Bridges not surveyed may have chub presence and/or suitable habitat.
- Historic distribution limited to elevations below 500 meters.

EFFECT SCREENING CRITERIA

Bridges meeting the following criteria will be documented as having No Effect to Oregon chub.

4) Bridges not within the Willamette River Basin
5) Bridges within the Willamette River Basin, north of the Santiam River confluence
6) Bridges within the Willamette River Basin, but documented by Scheerer et al. (2003) as being absent of Oregon chub and a habitat ranking of "Medium" or "Low" quality
7) Bridges located above the 500 meter elevation
8) Bridges that do not cross waterbodies

Effects to the species or their habitat may occur as a result of bridge replacement activities within known occupied or suitable habitat. Effects are either water-borne (turbidity, chemical), habitat related (stream channel impacts and riparian impacts) or direct (streamwork, fish handling, flow diversion).

Bridges identified as having High habitat quality by Scheerer (2003) will be subject to specific conservation measures and performance standards.

Bridge sites not yet surveyed for chub presence or habitat quality will be assumed to be occupied by Oregon chub until further surveys demonstrate otherwise.

REFERENCES

Federal Register for October 18, 1993 (58 FR 53800). Endangered and threatened wildlife and plants; determination of endangered status for the Oregon chub. Final Rule

Oregon Department of Fish & Wildlife. 2003. ODFW Aquatic Inventories Project- Oregon Chub Coverage 1991-2003. Natural Production Section. Oregon Department of Fish & Wildlife, Corvallis, OR.

Scheerer, P.D., P.S. Kavanagh, and K.K. Jones. 2003. Oregon chub investigations. Oregon Department of Fish and Wildlife, Fish Research Project EF-02 VII-1, Annual Progress Report, Portland.

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MEMORANDUM

DATE: October 3, 2003

TO: Nancy Lee and David Leal - USFWS

FROM: Kendel Emmerson and Zak Toledo – MB&G

SUBJECT: ODOT OTIA III: Borax Lake Chub (*Gila boraxobius*) Effect Screening Layer

INTRODUCTION

On May 28, 1980, the Borax Lake chub was designated as Endangered throughout its entire range (45 FR 35821). Critical habitat for the Borax Lake chub was designated on October 5, 1982 (47 FR 43957).

DATA LAYER USED

4th field HUC – Alvord Lake Basin

BIOLOGICAL SIGNIFICANCE

Borax Lake chub are only found in Borax Lake (a small 10.2 acre natural thermal lake), its outflow, and Lower Borax Lake located in the Alvord Basin of South Central Oregon (Harney County). These areas provide the Borax Lake chub with all the necessary requirements for survival and reproduction (e.g., food, spawning habitat, and water temperatures) (47 FR 43957).

ASSUMPTIONS

The entire range of the Borax Lake chub is completely within the 4th field HUC – Alvord Lakes.

GIS PROCESS PROPOSED FOR SCREENING

Bridges that are outside of the 4th field HUC – Alvord Lakes will have No Effect on the Borax Lake chub.

REFERENCES

Federal Register for May 28, 1980 (45 FR 35821). Emergency determination of Endangered Status and Critical Habitat for the Borax Lake chub. Emergency Critical Habitat, Critical Habitat – fishes. Emergency Listing, Endangered.

Federal Register for October 5, 1982 (47 FR 43957). Endangered Status and Critical Habitat for Borax Lake chub. Final Critical Habitat – fishes, Final Listing, Endangered.

Regional Ecosystem Office. 2002. Hydrologic Unit Boundaries for Oregon, Washington, and California. Vector Digital Data. Portland, Oregon. URL: http://www.reo.gov.

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MEMORANDUM

DATE: November 7, 2003

TO: Nancy Lee and David Leal - USFWS

FROM: Kendel Emmerson and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Hutton Tui Chub (*Gila bicolor*) Effect Screening Layer

INTRODUCTION

On March 28, 1985, the Hutton tui chub was designated as threatened (50 FR 12302). Critical habitat is not designated for this species.

DATA LAYER USED

5th field HUC - Alkali Lake Subbasin

BIOLOGICAL SIGNIFICANCE

According to the Recovery Plan for the Native Fishes of the Warner Basin, the Hutton tui chub range is contained within the Alkali Subbasin. Specifically, the Hutton tui chub is found in two springs in the Alkali Subbasin - the Hutton Spring and an unnamed spring located 1,700 feet southeast of the Hutton Spring.

ASSUMPTIONS

The entire range of the Hutton Tui chub is contained within the Alkali Lake Subbasin (5th field watershed). This 179 mi^2 HUC is adequate for screening for any water-born effects to the springs occupied by Hutton tui chub.

GIS PROCESS PROPOSED FOR SCREENING

Bridges that are outside of the Alkali Lake Subbasin (5th field watershed) will be documented as having No Effect on the Hutton tui chub.

REFERENCES

Federal Register for March 28, 1985 (50 FR 12302). Determination of Threatened Status for Hutton Tui Chub and Foskett Speckled Dace. Final listing, threatened, final special rule.

Regional Ecosystem Office. 2002. Hydrologic Unit Boundaries for Oregon, Washington, and California. Vector Digital Data. Portland, Oregon. URL: http://www.reo.gov.

U.S. Fish and Wildlife Service. 1998. Recovery Plan for the Native Fishes of the Warner Basin and Alkali Subbasin. Portland, Oregon. 86 pp.

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MEMORANDUM

DATE: November 7, 2003

TO: Nancy Lee and David Leal - USFWS

FROM: Kendel Emmerson and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Foskett Speckled Dace (*Rhinichthys osculus*) Effect Screening Layer

INTRODUCTION

On March 28, 1985, the Foskett speckled dace was designated as threatened (50 FR 12302). Critical habitat is not designated for this species.

DATA LAYER USED

4th field HUC – Warner Lakes

BIOLOGICAL SIGNIFICANCE

According to the Recovery Plan for the Native Fishes of the Warner Basin, the Foskett speckled dace range is contained within the Warner Lake Basin. Specifically, the Foskett speckled dace is found in two springs in the Warner Basin - the Foskett Spring and the Dace Spring.

ASSUMPTIONS

The entire range of the Foskett speckled dace is contained within the Warner Lakes 4th field HUC.

GIS PROCESS PROPOSED FOR SCREENING

Bridges that are outside of the Warner Lakes 4th field HUC will be documented as having No Effect on the Foskett speckled dace.

REFERENCES

Federal Register for March 28, 1985 (50 FR 12302). Determination of Threatened Status for Hutton Tui Chub and Foskett Speckled Dace. Final listing, threatened, final special rule.

Regional Ecosystem Office. 2002. Hydrologic Unit Boundaries for Oregon, Washington, and California. Vector Digital Data. Portland, Oregon. URL: http://www.reo.gov.

U.S. Fish and Wildlife Service. 1998. Recovery Plan for the Native Fishes of the Warner Basin and Alkali Subbasin. Portland, Oregon. 86 pp.

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MEMORANDUM

DATE: December 16, 2003

TO: Nancy Lee and David Leal - USFWS

FROM: Stuart Myers and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Pacific Lamprey (*Lampetra tridentata*), river lamprey (*Lampetra ayres*i), and western brook lamprey (*Lampetra richardson*i) Effect Screening Layer

INTRODUCTION

Three species of lamprey native to Oregon; Pacific lamprey, river lamprey, and western brook lamprey, are currently not listed under the Federal or State ESA. Available data regarding these species indicates that current populations of all three species are well below historic levels (PFMFC 1997, ODFW 2002). On January 28, 2003, 11 conservation organizations in Oregon, California, and Washington petitioned the USFWS to list the three species of lamprey as Federally threatened or endangered. The USFWS is currently reviewing the petition and current status of the three lamprey species to identify the need for Federal protection.

GIS SOURCE DATA

Oregon Coast ecoregion – all streams downstream of USACE impoundments, West Cascades ecoregion - all streams downstream of USACE impoundments, Willamette Valley ecoregion – all streams downstream of USACE impoundments, Columbia Basin ecoregion – all streams except Deschutes, High Lava Plains ecoregion – John Day River basin, Blue Mountain ecoregion – all tributaries of the Columbia River downstream of the Grande Ronde River (inclusive), Klamath Mountains ecoregion – Rogue River basin downstream of Lost Creek and Applegate dams and Umpqua River basin, 4th Field HUCS – Columbia/Sandy, Middle Columbia/Hood, and Lower Deschutes (ODFW 2002).

BIOLOGICAL SIGNIFICANCE

The current distribution of Pacific lamprey, river lamprey, and western brook lamprey is not fully understood due to a lack of historic management attention and the phenotypic similarities to other lamprey species (ODFW 2002). Current information regarding the status of the three lamprey species is largely anecdotal and has been derived from sightings of the species during management activities intended for other aquatic species. Lamprey and salmonids utilize similar freshwater habitats and are affected by similar effect pathways. Therefore, the proposed Performance Standards developed for other species addressed in this consultation will apply to lamprey.

ASSUMPTIONS

Pacific lamprey, river lamprey, and western brook lamprey are present in: Oregon Coast ecoregion – all streams downstream of USACE impoundments, West Cascades ecoregion - all streams downstream of USACE impoundments, Willamette Valley ecoregion – all streams downstream of USACE impoundments, Columbia Basin ecoregion – all streams except Deschutes, High Lava Plains ecoregion – John Day River basin, Blue Mountain ecoregion – all tributaries of the Columbia River downstream of the Grande Ronde River (inclusive), Klamath Mountains ecoregion – Rogue River basin downstream of Lost Creek and Applegate dams and Umpqua River basin, 4th Field HUCS – Columbia/Sandy, Middle Columbia/Hood, and Lower Deschutes.

EFFECT SCREENING CRITERIA

Bridges meeting the following criteria within the specified ecoregions or 4th field HUCS will have No Effect on Pacific lamprey, river lamprey, and western brook lamprey:

- Basin and Range ecoregion – all streams
- Owyhee Uplands ecoregion – all streams
- Oregon Coast ecoregion – all streams upstream of USACE impoundments
- West Cascades ecoregion - all streams upstream of USACE impoundments
- Willamette Valley ecoregion – all streams upstream of USACE impoundments
- High Lava Plains ecoregion – all streams except the John Day River basin
- Blue Mountain ecoregion – all tributaries of the Columbia River upstream of the Grande Ronde River (inclusive)
- Klamath Mountains ecoregion – Rogue River basin upstream of Lost Creek and Applegate dams, Umpqua River basin

REFERENCES

Oregon Department of Fish and Wildlife (ODFW). 2002. Oregon Lampreys: Natural History, Status and Analysis of Management Issues. Draft Report. Salem, Oregon. 48 pp.

Pacific States Marine Fisheries Commission (PSMFC). 1997. Life History of the Pacific Lamprey. URL: http://www.psmfc.org. (accessed December 9, 2003)

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MEMORANDUM

DATE: January 23, 2004

TO: David Leal - USFWS

FROM: Stuart Myers and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Modoc Sucker (*Chtostomus Microps)* Effect Screening Layer

INTRODUCTION

On June 11, 1985, the Modoc sucker was designated as Endangered throughout its entire range (50 FR 24526). Critical habitat for the Modoc Sucker was designated on June 11, 1985 (50 FR 24526). Within the area covered by this listing, the Modoc sucker is known to occur in California (50 FR 24526).

BIOLOGICAL SIGNIFICANCE

The Modoc sucker historically occurred in small tributaries of the upper Pit River in Lassen and Modoc Counties, California. Today, the Modoc sucker is only found in two small drainage systems (Turner and Rush Creeks) in Modoc County, California (50 FR 24526). Preferred habitat of the Modoc sucker consists of small streams characterized by large shallow pools with cover, soft sediments, and clear water. Food of the Modoc sucker consists of benthic invertebrates, algae, and detritus (50 FR 24526). During spring spawning runs, the species ascends creeks or tributaries that may be dry during summer months (50 FR 24526).

ASSUMPTIONS

The entire range of the Modoc sucker is completely within the Turner and Rush Creek drainage systems in Modoc County, California.

RESULTS

Following the analysis of the proximity of the proposed action to the range of the Modoc sucker, we make a determination of No Effect for this species. The OTIA III Bridge Program does not include the construction or replacement of bridges within the range of the Modoc Sucker. Therefore, no effects to the Modoc sucker or their critical habitat will result from the proposed action.

REFERENCES

Federal Register for June 11, 1985 (50 FR 24526). Final Critical Habitat, Critical Habitat, Fishes, Final Listing, Endangered. Final Rule.

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MEMORANDUM

DATE: February 26, 2003

TO: Art Martin and Marc Liverman - NOAA Fisheries

FROM: Kendel Emmerson and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Steller (Northern) Sea Lion (*Eumetopias jubatus*) Effect Screening Layer

INTRODUCTION

On December 4, 1990 the Steller sea lion was designated as threatened throughout its entire range (55 FR 49204). This listing was in response to a drastic decline in the Steller sea lion population. The reasons for the decline are unknown but are suspected to be the results of disease, incidental take in fishing gear, shooting, and natural or human induced changes in the abundance and species composition of sea lion prey (58 FR 45269). Critical habitat was designated September 27, 1993 (58 FR 45269).

DATA LAYER USED

1. Pacific Ocean shoreline as determined by the Oregon State Boundary GIS layer
2. A 3,000-foot buffer surrounding the critical habitat designated in the Federal Register (58 FR 45269) and the Three Arch National Wildlife Refuge rookery described in the personal communication with Robin Brown (2002).
3. 4th field HUC – Lower Rogue, Grays and Elokoman, Lower Columbia/Clatskanie.
4. Johnson and O'Neil habitat types: Bays & Estuaries

BIOLOGICAL SIGNIFICANCE

Steller sea lion primary habitat consists of rookeries where adults congregate during the breeding season, which extends from late May to early July (58 FR 45269). In Oregon, important reproductive activities and care of newborn sea lion pups on these rookeries occurs from late April through early September (Robin Brown personal communication, 2003B). Rookeries are remote islands, rocks, reefs, and beaches where access by terrestrial predators is limited.

In addition to rookeries, haulouts are essential habitat for Steller sea lions. A haulout may include rookeries used outside of the breeding season, rocks, reefs, beaches, and occasionally sea ice and manmade structures, such as breakwaters, navigational aids, and floating docks (58 FR 45269). Critical habitat in Oregon includes an air and aquatic zone that extends 3,000 feet from historically occupied sea lion rookeries (58 FR 45269). In Oregon, there are three rookeries designated as critical habitat: Rogue Reef Pyramid Rock Site, the Orford Reef Long Brown Rock Site, and Seal Rock Site. Three Arch National Wildlife Refuge in Tillamook County has a marginal Steller sea lion rookery, which is not designated as critical habitat (Robin Brown personal communication, 2002). Haulouts in Oregon have not been identified as critical habitat (58 FR 45269.

In Oregon, Steller sea lions may be found hauled out at Astoria East Mooring Basin and at the end of the South Jetty of the Columbia River, Tillamook Rock, Three Arch Rocks, Cascade Head, Seal Rock, Sea Lion Caves, Cape Arago, Rogue Reef, Blacklock Point, Blanco Reef, Orford Reef, Rogue Reef, and Mack Reef (Robin Brown personal communication, 2003B). These haulouts can be used any time of the year. In addition, Steller sea lions have been observed foraging up to 8 miles upriver on the Rogue River during the spring and fall chinook salmon runs. Small numbers of Steller sea lions may be found in the lower Rogue River at any time of the year since the largest rookery in the state is located just 2 miles northwest of the river mouth. Steller sea lions have also been observed foraging up the Columbia River as far as Longview, Washington primarily during fall and spring salmon migration periods and during the winter smelt run (Robin Brown personal communication, 2003A and 2003B). Small numbers of Steller sea lions may be found in any of the bays, estuaries, or lower portions of rivers along the Oregon coast (Robin Brown personal communication, 2003B). In Oregon, Steller sea lions may be found at any of the above listed rookeries, haul out areas, or river mouths anytime of the year; however, the greatest number of occurrences in Oregon are during June and July, which corresponds with the Steller sea lion's reproductive period.

ASSUMPTIONS

In Oregon, the Steller sea lion only occurs along the Pacific Ocean shoreline, within the Bays & Estuaries Johnson & O'Neil habitat type, up to 1,640 feet from the mouth of rivers along the Oregon Coast, excluding the Columbia River and Rogue River. Steller sea lions only occur within the Grays/Elokoman, Lower Columbia/Clatskanie 4th field HUCs of the Columbia River and Lower Rogue 4th field HUC of the Rogue River.

GIS PROCESS PROPOSED FOR SCREENING

OTIA III Bridge Areas of Potential Impact (APIs) that are greater than 1,640 feet from the Pacific Ocean shoreline and do not include Bays & Estuaries habitat type identified in Johnson & O'Neil will be documented as having no effect on the Steller sea lions. Bridge APIs within 1 mile of the Pacific Ocean shoreline, Bays & Estuaries Johnson and O'Neil habitat type, or within the Lower Rogue, Grays/Elokoman, and Lower Columbia/Clatskanie 4th field HUCs may affect foraging. Further, bridge APIs that are located within 3,000 feet of a designated critical habitat area or Three Arch National Wildlife Refuge may affect Steller sea lion breeding and/or normal haulout behaviors.

REFERENCES

Brown, R. August 30, 2002. Personal Communication in an electronic mail with Francesca Cafferata (Mason, Bruce, & Girard). Marine Mammal Program Leader, Oregon Department of Fish and Wildlife, Corvallis, Oregon.

Brown, R. November 18, 2003A. Personal Communication in a phone conversation with Kendel Emmerson (Mason, Bruce, & Girard). Marine Mammal Program Leader, Oregon Department of Fish and Wildlife, Corvallis, Oregon.

Brown, R. November 26, 2003B. Personal Communication in an email sent to Art Martin (NOAA Fisheries) and forwarded to Kendel Emmerson (Mason, Bruce, & Girard). Marine Mammal Program Leader, Oregon Department of Fish and Wildlife, Corvallis, Oregon.

Environmental Protection Agency (EPA). 2001. Ecoregions were based on those originally published in The Natural Vegetation of Oregon and Washington, by J.F. Franklin and C.T. Dyrness in 1973. Geographic Information Systems data obtained from the Oregon Natural Heritage Program March 2003.

Federal Register for November 26, 1990 (55 FR 49204). Listing of Steller Sea Lions as Threatened Under the Endangered Species Act. Final Rule.

Federal Register for August 27, 1993 (58 FR 45269). Designated Critical Habitat; Steller Sea Lion. Final Rule.

O'Neil, Thomas A., David H. Johnson, Charley Barrett, Marla Trevithick, Kelly A. Bettinger, Chris Kiilsgaard, Madeleine Vander Heyden, Eva L. Greda, Derek Stinson, Bruce G. Marcot, Patrick J. Doran, Susan Tank, and Laurie Wunder. Matrixes for Wildlife-Habitat Relationship in Oregon and Washington. Northwest Habitat Institute. 2001. In D. H. Johnson and T. A. O'Neil (Manag. Dirs.) Wildlife-Habitat Relationships in Oregon and Washington. Oregon State University Press, Corvallis, Oregon, USA.

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MEMORANDUM

DATE: October 2, 2003

TO: Nancy Lee and David Leal - USFWS

FROM: Kendel Emmerson and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Columbian White-tailed Deer (*Odocoileus virginianus leucurus*) Columbia River Distinct Population Segment Effect Screening Layer

INTRODUCTION

The Columbian white-tailed deer was listed as federally endangered on March 11, 1967. There are two populations of Columbia white-tailed deer: the Douglas County population and the Columbia River population. These populations are separated by a distance of greater than 200 miles, much of which is discontinuous or unsuitable habitat (68 FR 43647). On July 24, 2003 the Douglas County Distinct Population Segment (DPS) was federally de-listed; however, the Columbia River DPS remains federally listed as endangered (68 FR 43647).

DATA LAYER USED

4th field HUC – Lower Columbia/Clatskanie and Grays/Elokoman and DEM for elevations.

BIOLOGICAL SIGNIFICANCE

Columbia white-tailed deer Columbia River DPS existing populations are in Columbia and Clatsop County, Oregon on the islands and within the floodplain of the Columbia River (ODFW 1995). The Columbia River white-tailed deer preferred habitats are the riparian forest, brushlands, and pastures within floodplains of the Columbia River (WDFW 1990, ODFW 1995). Habitat loss is the greatest threat to this species; however, noise disturbance over extended period or during critical times of the fawning season could adversely impact this species.

ASSUMPTIONS

The preferred habitat for Columbia white-tailed deer Columbia River DPS in Oregon is below 100 feet in elevation along the floodplain of the Columbia River in Columbia and Clatsop Counties.

GIS PROCESS FOR PROPOSED SCREENING

OTIA III bridges outside of the Lower Columbia/Clatskanie and Grays/Elokoman 4th field HUC in Clatsop and Columbia Counties will have no effect on Columbian white-tailed deer. OTIA III Bridges that are within the Lower Columbia/Clatskanie and Grays/Elokoman 4th field HUC, but are above 100 feet in elevation will have no effect on Columbian white-tailed deer.

REFERENCES

Federal Register (68 FR 43647). Endangered and Threatened Wildlife and Plants; Final Rule to Remove the Douglas County Distinct Population Segment of Columbia White-Tailed Deer from the Federal List of Endangered and Threatened Wildlife.

Oregon Department of Fish and Wildlife. 1995. ODFW Backgrounder: The Columbian White-tailed Deer and the Oregon Endangered Species Act. URL: http://www.dfw.state.or.us/ODFWhtml/InfoCntrWild/PDFs/BKGWhiteTail.pdf. Accessed October 3, 2003. 4 pp.

Regional Ecosystem Office. 2002. Hydrologic Unit Boundaries for Oregon, Washington, and California. Vector Digital Data. Portland, Oregon. URL: http://www.reo.gov.

United States Geological Survey. 1999. 250K Digital Elevation Models (DEMs). Seamless DEM layer for Oregon created by MB&G in 2000.

Washington Department of Fish and Wildlife. 1990. WDFW Management Recommendations for Priority Species: Columbian White-tailed Deer. Unpublished report of the Washington Department of Fish and Wildlife. Olympia, Washington. 3 pp.

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MEMORANDUM

DATE: October 27, 2003

TO: Nancy Lee and David Leal - USFWS

FROM: Kendel Emmerson and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Canada Lynx (*Lynx canadensis*) Effect Screening Layer

INTRODUCTION

On March 24, 2000 the Canada Lynx was Federally listed as threatened throughout its entire range (65 FR 16051). Critical habitat for the Canada lynx has not been designated.

DATA LAYER USED

Camryn Lee (USFWS Biologist) provided a schematic of the area of concern for lynx habitat blocks and connectivity in Oregon via a fax to Jessica Burton (MB&G GIS specialist) on October 9, 2003. This schematic was used to create a map of the area of concern for lynx. To ensure that the fax was interpreted correctly, the map was sent as a JPEG to Camryn Lee to review in an email sent on October 15, 2003 from Kendel Emmerson. MB&G received verbal approval via David Leal on October 21, 2003.

BIOLOGICAL SIGNIFICANCE

Canada lynx occur in higher elevations of boreal forest habitat types (Lee et al. 1998). In Oregon, the Canada lynx occurs within the Blue Mountain Ecoregion in habitats above 4,500 ft in elevation (Lee et al.1998).

ASSUMPTIONS

All potential suitable habitats and areas necessary for maintaining connectivity in Oregon are within the USFWS designated area of concern.

GIS PROCESS PROPOSED FOR SCREENING

All OTIA III bridges API (Area of Potential Impact) that are outside of the area of concern will be documented as having No Effect on Canada lynx.

REFERENCES

Federal Register for March 24, 2000 (65 FR 16051). Determination of Threatened Status for the Contiguous U.S. Distinct Population Segment of the Canada Lynx and Related Rule, Final Rule.

Lee, C., E. Rybak, J. Weaver, Doctor of Philosophy, K. Aubry, Doctor of Philosophy, R. Naney, G. Gunderson, J. Lehmkuhl, Doctor of Philosophy., W. Zielinski, Doctor of Philosophy , G. Koehler, P. Murphy, C. Lorimor, and V. Agnew. 1998. Survey Protocol for the Lynx (*Lynx canadensis*). United States Fish and Wildlife Service, United States Forest Service,

Wildlife Conservation Society, Washington Department of Fish and Wildlife, Wenatchee National Forest.

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MEMORANDUM

DATE: October 2, 2003

TO: Nancy Lee and David Leal - USFWS

FROM: Kendel Emmerson and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Marbled Murrelet (*Brachyramphus marmoratus marmoratus*) Effect Screening Layer

INTRODUCTION

On October 1, 1992 the marbled murrelet was listed as threatened (57 FR 45328). Critical habitat was designated on May 24, 1996 (61 FR 26256).

DATA LAYER USED

EPA 2001 Ecoregions: Coast Range Ecoregion.

Johnson and O'Neil habitat types: Westside Lowland Conifer-Hardwood Forest, Southwest Oregon Mixed Conifer-Hardwood Forest, Bays and Estuaries, Marine Nearshore, and Marine Shelf.

BIOLOGICAL SIGNIFICANCE

Marbled murrelets spend most of their lives in the marine environment where they feed primarily on small fish and invertebrates in the near-shore marine water (61 FR 26256). Marbled murrelets nest in large-diameter old-growth trees in low-elevation forest with multi-layered canopies (61 FR 26256). Marbled murrelets nest inland, as far as 40 miles inland of the Pacific Ocean shoreline in Oregon (Evans et al. 2003).

ASSUMPTIONS

The Westside Lowland Conifer-Hardwood Forest, Southwest Oregon Mixed Conifer-Hardwood Forest, Bays and Estuaries, Marine Nearshore, and Marine Shelf habitat types are the only habitat types to support the Oregon population of marbled murrelets. Nesting by marbled murrelets will not occur greater than 40-miles inland.

GIS PROCESS FOR PROPOSED SCREENING

Bridges that are greater than 40 miles from the Pacific shoreline will have no effect on the marbled murrelet. OTIA III bridges Area of Potential Impact (API) within 40 miles of Pacific Coast shoreline and within 1.0 mile of Westside Lowland Conifer-Hardwood Forest, Southwest Oregon Mixed Conifer-Hardwood, Forest, Bays and Estuaries, Marine Nearshore, and Marine Shelf habitat type have the potential to impact marbled murrelets.

Bridges that are within 40 miles of the Pacific shoreline, but not within 1.0 mile of the listed habitat types have the potential to disturb marbled murrelets using water courses as travel

corridors from the marine environment to nest sites. To insure that these bridges will have no effect on marbled murrelets all construction activities that produce percussive noises greater than 10 dBA above ambient conditions would be restricted to 2 hours after official sunrise between April 1 and August 5.

REFERENCES

Environmental Protection Agency (EPA). 2001. Ecoregions were based on those originally published in The Natural Vegetation of Oregon and Washington, by J.F. Franklin and C.T. Dyrness in 1973. Geographic Information Systems data obtained from the Oregon Natural Heritage Program March 2003.

Evans Mack, D., W.P. Ritchie, S.K. Nelson, E. Kuo-Harrison, P. Harrison, and T.E. Hamer. 2003. Methods for surveying Marbled Murrelets in forests: a revised protocol for land management and research. Pacific Seabird Group unpublished document available at http://www.pacificseabirdgroup.org.

Federal Register for October 1, 1992. (57 FR 45328). Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Washington, Oregon, and California Population of the Marbled Murrelet.

Federal Register for May 24, 1996. (61 FR 26256). Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for the Marbled Murrelet.

O'Neil, Thomas A., David H. Johnson, Charley Barrett, Marla Trevithick, Kelly A. Bettinger, Chris Kiilsgaard, Madeleine Vander Heyden, Eva L. Greda, Derek Stinson, Bruce G. Marcot, Patrick J. Doran, Susan Tank, and Laurie Wunder. Matrixes for Wildlife-Habitat Relationship in Oregon and Washington. Northwest Habitat Institute. 2001. In D. H. Johnson and T. A. O'Neil (Manag. Dirs.) Wildlife-Habitat Relationships in Oregon and Washington. Oregon State University Press, Corvallis, Oregon, USA. 2001.

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MEMORANDUM

DATE: October 5, 2003

TO: Nancy Lee and David Leal - USFWS

FROM: Kendel Emmerson and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Bald Eagle (*Haliaeetus leucocephalus)* Effect Screening Layer

INTRODUCTION

The bald eagle was reclassified from federally endangered to threatened on July 12, 1995 (60 FR 36000). There is no critical habitat designated for bald eagles (USFWS 2000).

DATA LAYER USED

Issacs and Anthony

BIOLOGICAL SIGNIFICANCE

Bald eagle breeding territories are typically located within 1.0 mile of permanent water in predominantly coniferous, uneven-aged forest stands with old-growth structural components (Anthony et al. 1982, Stalmaster 1987, Anthony and Isaacs 1989). Favored nest trees are usually the largest tree or snag in a stand that provides an unobstructed view of the surrounding area and a clear flight path to and from the nest (Stalmaster 1987, Rodrick and Milner 1991). Bald eagles are territorial and often use the same nest year after year (Donohoo et al. 1997). Bald eagle pairs in Oregon have alternate nests in their territories that are used in different years (Anthony and Isaacs 1981). To monitor the bald eagle population in Oregon the existing and newly established bald eagle nest territories are monitored annually by the Oregon Cooperative Fish and Wildlife Research Unit, which is a cooperative effort of several local, state, and federal agencies. Each bald eagle territory's status and nest site location is compiled into a database with records dating to 1971 (Isaacs and Anthony 2003).

ASSUMPTIONS

The current Isaacs and Anthony data will account for all known bald eagle nests in Oregon.

GIS PROCESS FOR PROPOSED SCREENING

Isaacs and Anthony data will be updated annually to insure new nest sites are incorporated into the GIS data. OTIA III bridges that are greater than 1.0 mile from a bald eagle nest site will have No Effect on nesting bald eagles.

REFERENCES

Anthony, R.G. and F. B. Isaacs. 1981. Characteristics of bald eagle nest sites in Oregon. Unpublished report. Oregon State University, Corvallis, OR.

Anthony, R.G. and F.B. Isaacs. 1989. Characteristics of bald eagle nest sites in Oregon. Journal of Wildlife Management. 53(1):148-159.

Anthony, R.G., R.L. Knight, G.T. Allen, B.R. McClelland, and J.I. Hodges. 1982. Habitat use by nesting and roosting bald eagles in the Pacific Northwest. In Trans. North American Wildlife Natural Resource Conference, Wildlife. Management. Institution, Washington D.C. 47:332-342.

Donohoo, L., G. Kaltenecker, and J. Erickson. 1997. Biological Assessment for the Paradise Integrated Resource Management Project in the Mountain Home Ranger District of the Boise National Forest. USFS. 19 pp + Appendices.

Federal Register for July 12, 1995 (60 FR 36000). Endangered and Threatened Wildlife Species; Bald Eagle Reclassification; Final Rule.

Isaacs, F.B and R.G Anthony. 2003. Bald Eagle Nest Locations and History of Use in Oregon and the Washington Portion of the Columbia River Recover Zone, 1971 through 2003. Oregon Cooperative Fish and Wildlife Research Unit, Oregon State University, Corvallis. 21 pp., 6 tables, 2 figures, 1 appendix.

Rodrick, E., and R. Milner. 1991. Management recommendations for Washington's Priority Habitats and Species. Journal of Wildlife. Management., Fish Management and Habitat Management Division, Washington Department of Wildlife, Olympia, Washington. np.

Stalmaster, M.V. 1987. The bald eagle. Universe Books, New York, NY. 227 pp.

U.S. Fish and Wildlife Service. 2000. U. S. Fish and Wildlife Service Division of Endangered Species. U.S. listed vertebrate animal species index by lead region and status as of November 30, 1999. US Listed Bird Species Profiles 1, as of November 30, 1999. http://www.endangered.fws.gov/birds1.html#Lnkoh. Accessed January 10, 2000.

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MEMORANDUM

DATE: November 19, 2003

TO: Nancy Lee and David Leal - USFWS

FROM: Kendel Emmerson and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Brown Pelican (*Pelecanus occidentalis*) Effect Screening Layer

INTRODUCTION

On June 2, 1970 the brown pelican was designated as Endangered throughout its entire range, except for the U.S. Atlantic Coast, Florida, and Alabama (35 FR 8491). On February 4, 1985, the brown pelican was de-listed in the U.S. Atlantic coast, Florida, and Alabama (50 FR 4938).

DATA LAYER USED

1. Pacific Ocean shoreline as determined by the Oregon State Boundary GIS layer

2. Johnson and O'Neil habitat types: Urban/Mixed Enviros, Coastal Dunes and Beaches, Marine Nearshore, Coastal Headlands/Islets, and Bays and Estuaries.

BIOLOGICAL SIGNIFICANCE

The brown pelican breeds in nesting colonies on islands in the Gulf of California and along the Pacific Coast from Baja, California to Santa Barbara Islands and the non-breeding brown pelicans range from Colima, Mexico to British Columbia, Canada (USFWS 1983). Non-breeding pelican dispersal patterns are dependent on food availability and oceanographic conditions, such as temperature and currents (USFWS 1983). Both breeding and non-breeding pelicans require roosting and loafing sites, free from human disturbance, for resting and drying theirs feathers (USFWS 2002). Roosting and loafing sites include offshore rocks and islands, river mouths with sandbars, breakwaters, pilings, and jetties (USFWS 1983). Brown pelicans are most threatened by a limited food supply, oceanic pollution, persistent pesticides, and disturbance at nest locations (USFWS 1983).

ASSUMPTIONS

The Pacific Ocean shoreline with the Johnson and O'Neil habitat types listed above are the only habitats where brown pelicans are known to occur in Oregon. Brown pelicans have been documented elsewhere in Oregon; however, this is often due to pelicans being "blown" off course by storms. Areas greater than 5 miles from Pacific Ocean shoreline do not provide brown pelican habitat.

GIS PROCESS PROPOSED FOR SCREENING

Bridges greater than 5 miles from the Pacific Ocean shoreline will be documented as having No Effect on brown pelicans. Further, bridges within 5 miles of the Pacific Ocean shoreline, but located greater than 1.0 mile from the listed habitat types will have No Effect on brown pelicans.

REFERENCES

Environmental Protection Agency (EPA). 2001. Ecoregions were based on those originally published in The Natural Vegetation of Oregon and Washington, by J.F. Franklin and C.T. Dyrness in 1973. Geographic Information Systems data obtained from the Oregon Natural Heritage Program March 2003.

Federal Register for June 2, 1970 (35 FR 8491). Part 17 – Conservation of Endangered Species and other Fish or Wildlife (First list of Endangered Foreign Fish and Wildlife as Appendix A). Final Listing, Endangered.

Federal Register for February 4, 1985 (50 FR 4938). Removal of the Brown Pelican in southeastern U.S. from the list of Endangered and Threatened Wildlife. Final Amendment, Exclusion of delisted subunits.

O'Neil, Thomas A., David H. Johnson, Charley Barrett, Marla Trevithick, Kelly A. Bettinger, Chris Kiilsgaard, Madeleine Vander Heyden, Eva L. Greda, Derek Stinson, Bruce G. Marcot, Patrick J. Doran, Susan Tank, and Laurie Wunder. Matrixes for Wildlife-Habitat Relationship in Oregon and Washington. Northwest Habitat Institute. 2001. In D. H. Johnson and T. A. O'Neil (Manag. Dirs.) Wildlife-Habitat Relationships in Oregon and Washington. Oregon State University Press, Corvallis, Oregon, USA. 2001.

United States Fish and Wildlife Service. 1983. California Brown Pelican Recovery Plan. Portland, Oregon. 179 pp.

United States Fish and Wildlife Service (USFWS). 2002. Species Account: Brown Pelican. Created by the Oregon Fish and Wildlife Office, updated April 2002. URL: http://oregonfwo.fws.gov/EndSpp/FactSheets/Birds/ Pelican.dwt. Accessed October 17, 2003.

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MEMORANDUM

DATE: October 6, 2003

TO: Nancy Lee and David Leal - USFWS

FROM: Kendel Emmerson and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Northern Spotted Owl (*Strix occidentalis)* Effect Screening Layer

INTRODUCTION

The northern spotted owl was listed as threatened on June 26, 1990 (55 FR 26114). Critical habitat has been designated for the northern spotted owl (USFWS 1992).

DATA LAYER USED

Range of the Northern Spotted Owl and Northwest Forest Plan Boundary, FEMAT 1993 (REO 2003).

BIOLOGICAL SIGNIFICANCE

Northern spotted owls are known to inhabit most types of coniferous forests below 6000 ft in elevation west of, and including, the Cascade Mountains (USFS 1988). Major roosting and nesting areas are generally dispersed throughout a northern spotted owl's territory, and their pattern of use varies seasonally (Forsman et al. 1984). Median home range size for northern spotted owls varies depending on the physiographic province (Thomas et al. 1990). Suitable nesting habitat in west-side forests (i.e., west of the summit of the Cascade Mountains) includes abundant dead and downed woody material, a medium to high forest canopy closure, multiple layers in the forest overstory, and mature trees (generally 200 years or older) or greater than 32 inches in diameter at breast height (dbh) (Thomas et al. 1990). Northern spotted owl suitable nesting, roosting, and foraging habitat east of the Cascade Mountain Crest differs from the west-side suitable habitat definition and typically occurs in mixed conifer stands within areas with a riparian plant association (USFS 2002). These stands typically have multi-storied canopies containing some larger trees. The canopy cover is typically greater than or equal to 40 percent with an overstory comprised of at least 5 percent of trees greater than 21 in dbh (USFS 2002).

ASSUMPTIONS

The Range of the Northern Spotted Owl and Northwest Forest Plan Boundary, FEMAT 1993 (REO 2003) includes all known spotted owl nests.

GIS Process for Proposed Screening

OTIA III bridges that are greater than 1.0 miles from the boundary of the range of the northern spotted owl will have no effect on northern spotted owls. The Oregon Cascades Province is the eastern most province in the range of the northern spotted owl; therefore bridges outside of the range would be east of this province. Bridges within 1.0 miles of the boundary and containing suitable Johnson and O'Neil habitat types within 500 feet of the bridge center point will be considered as having the potential to affect the northern spotted owl.

References

Interagency Science Committee. 1990. Conservation Strategy for Northern Spotted Owl: A Report of Interagency Science Committee to Address the Conservation of the Northern Spotted Owl. Oregon Natural Heritage Database. 427 pp.

Federal Register for June 26, 1990. Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Northern Spotted Owl; Final Rule.

Forsman, E.D., E.C. Meslow, and H.M. Wright, 1984. Distribution and biology of the spotted owl in Oregon. Wildl. Monog. 87. 64pp.

Thomas, J.W., E.D. Forsman, J.B. Lint, E.C. Meslow, B.R. Noon, and J. Verner, 1990. A Conservation Strategy for the Northern Spotted Owl. A report by the Interagency Scientific Committee to address the conservation of the northern spotted owl. U.S.D.A. Forest Service, U.S.D.I. Fish and Wildlife Service, U.S.D.A. Bureau of Land Management, and U.S.D.I. National Park Service, Portland, OR.

Regional Ecosystem Office (REO). 2003. REO Geographic Information Systems Range of the Northern Spotted Owl and Northwest Forest Plan Boundary, (FEMAT 1993). http://www.reo.gov/gis/data/gisdata/index.htm.

Regional Ecosystem Office (REO). 2003. REO Geographic Information Systems Physiographic Provinces with the Northwest Forest Plan (FEMAT 1993) http://www.reo.gov/gis/images/phypro.jpg

U.S. Fish and Wildlife Service (USFWS), 1992A. Critical Habitat For The Northern Spotted Owl. U.S.D.I. Fish and Wildlife Service. 73 pp.

U.S. Forest Service (USFS), 1988. Final Supplement to the Environmental Impact Statement for an Amendment to the Pacific Northwest Regional Guide. Volumes 1 and 2. U.S.D.A. Forest Service, Pacific Northwest Region, Portland, OR.

U.S. Forest Service (USFS). 2002. Draft Environmental Impact Statement for Metolius Basin Forest Management Project. USDA For. Serv. Deschutes National Forest, Sisters Ranger District, Sisters, Oregon. 404 pp + appendices.

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MEMORANDUM

DATE: October 7, 2003

TO: Nancy Lee and David Leal - USFWS

FROM: Kendel Emmerson and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Western Snowy Plover (*Charadrius alexandrinus nivosus*)
Pacific Coast Population Effect Screening Layer

INTRODUCTION

The western snowy plover Pacific Coast population was listed as threatened in March 5, 1993 (58 FR 12864). Critical habitat was designated in December 7, 1999 (64 FR 68508).

The western snowy plover has two distinct populations in Oregon: the Pacific Coast population and the Interior population. Federal listing only applies to the Pacific Coast population, which is defined as those individuals that nest adjacent to tidal waters, and includes all nesting birds on the mainland coast, peninsulas, offshore islands, adjacent bays, estuaries, and coastal rivers (FR 68508).

DATA LAYER USED

United States Fish and Wildlife Service (USFWS). 2003. Geographic Information Systems dataset for recovery location units of the western snowy plover along the Oregon Coast. Received from Linda Roberts, USFWS GIS Branch, Sacramento, CA on October 2, 2003.

BIOLOGICAL SIGNIFICANCE

USFWS designated critical habitat areas for the western snowy plover (Pacific Coast population) (68 FR 68508). Critical habitat was selected for areas that supported at least four nesting snowy plover pairs or 10 wintering plovers (68 FR 68508). Oregon has seven of the 28 critical habitat areas, which support 97 percent of the nesting and 98 percent of the winter plovers in Oregon (68 FR 68508). In addition to the critical habitat areas the USFWS has proposed recovery units and within each unit there are recovery locations. These locations are areas that are known to support nesting western snowy plovers in addition to the critical habitat areas.

ASSUMPTIONS

Recovery units will account for all the range of western snowy plovers along the Oregon Coast.

GIS PROCESS FOR PROPOSED SCREENING

OTIA III bridges have the potential to adversely impact snowy plovers. Alteration of a water course either temporarily during construction or permanently through bridge design could affect snowy plover habitat by reducing sand delivery or by affecting water quality (USFWS 2001). Ground disturbance activities may introduce or promote non-native vegetation that result in significant losses of habitat, such as beachgrasses (*Ammophila* spp.) (USFWS 2001). The increase presence of humans may encourage predators, such as crows, ravens or other Corvid

species, to the area (USFWS 2001). Each of these potential impacts should have no effect on snowy plovers if they occur greater than 1.0 mile from snowy plover areas. Any potential for noise disturbance from construction activities will have no effect at distances greater than 1.0 mile. In Oregon, this population exists only in the Coast Range Ecoregion; therefore all OTIA III bridges that are outside of the Coast Range Ecoregion will have no effect on the Pacific Coast population of the western snowy plover.

REFERENCES

Federal Register for March 5, 1993 (58 FR 12864). Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Pacific Coast Population of the Western Snowy Plover. Final Rule.

Federal Register for December 7, 1999 (68 FR 68508). Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Pacific Coast Population of the Western Snowy Plover. Final Rule.

O'Neil, Thomas A., David H. Johnson, Charley Barrett, Marla Trevithick, Kelly A. Bettinger, Chris Kiilsgaard, Madeleine Vander Heyden, Eva L. Greda, Derek Stinson, Bruce G. Marcot, Patrick J. Doran, Susan Tank, and Laurie Wunder. Matrixes for Wildlife-Habitat Relationship in Oregon and Washington. Northwest Habitat Institute. 2001. In D. H. Johnson and T. A. O'Neil (Manag. Dirs.) Wildlife-Habitat Relationships in Oregon and Washington. Oregon State University Press, Corvallis, Oregon, USA. 2001.

United States Fish and Wildlife Service (USFWS). 2001. Western Snowy Plover (Charadrius alexandrinus nivosus) Pacific Coast Population Draft Recovery Plan. Portland, Oregon. xix ++ 630 pp.

United States Fish and Wildlife Service (USFWS). 2003. Geographic Information Systems dataset for recovery locations of the western snowy plover along the Oregon Coast. Received from Linda Roberts, USFWS GIS Branch, Sacramento, CA on October 2, 2003.

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MEMORANDUM

DATE: November 10, 2003

TO: Randy Reeve - ODFW

FROM: Kendel Emmerson and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: American Peregrine Falcon *(Falco peregrinus anatum)* Effect Screening Layer

INTRODUCTION

On October 13, 1970, the American peregrine falcon was listed as endangered under the federal ESA (35 FR 16047). The American peregrine falcon was removed from the federal ESA list on August 25, 1999 because populations were considered to be recovered from being threatened by extinction (64 FR 46542). The American peregrine falcon was listed as endangered under the Oregon State Endangered Species Act (SESA) in 1987 (OAR 635-100-0125) and currently is protected by SESA only (ODFW 2003).

DATA LAYER USED

Nest location information was provided by Randy Reeve of ODFW for each OTIA III bridge that is within 2.0 miles of a peregrine falcon nest.

BIOLOGICAL SIGNIFICANCE

The American peregrine falcon is one of three subspecies of peregrine falcon that occur in North America (64 FR 46542). The American peregrine falcon nests from central Alaska, western Canada, throughout the western United States, and south to highlands of central Mexico (64 FR 46542). Peregrine falcon nests are usually located on a small scrape on a ledge of a cliff face or a man-made structure. A suitable cliff face or structure is typically between 75 to 2,000 ft tall and within 0.25 mi to 0.50 mi of riparian, lacustrine, or marine habitat (Pagel 1992). Blasting, road construction, low-flying aircraft, and recreational activities may disturb nesting peregrines (Pacific Coast American Peregrine Falcon Recovery Team 1982). Peregrines are most susceptible to human disturbance during courtship and incubation; nest tenacity by adults increases as incubation progresses and hatching occurs.

ASSUMPTIONS

Nest sites provided by Randy Reeve, Oregon Department of Fish and Wildlife, will account for all known nest sites within 1.0 miles of OTIA III bridges.

GIS Process Proposed for Screening

OTIA III bridges greater than 1.0 miles form a peregrine falcon nest will be documented as having No Effect on American peregrine falcon.

References

Federal Register for October 13, 1970 (35 FR 16047). Appendix D - United States List of Endangered Native Fish and Wildlife.

Federal Register for August 25, 1999 (64 FR 46542). Endangered and Threatened Wildlife and Plants; Final Rule to Remove the American Peregrine Falcon From the Federal List of Endangered and Threatened Wildlife, and to Remove the Similarity of Appearance Provision for Free-Flying Peregrines in the Conterminous Untied States.

Oregon Department of Fish and Wildlife. 2003. Oregon Administrative Rules Oregon Department of Fish and Wildlife Division 100 Wildlife Diversity Plan. URL: http://www.dfw.state.or.us/ODFWhtml/OARs/pdfs/fish/div_100.pdf. (November 3, 2003)

Pacific Coast American Peregrine Falcon Recovery Team. 1982. Coast Recovery Plan for the American Peregrine Falcon (Falco peregrinus anatum). USDI Fish and Wildlife Service, Denver, Colorado. 86pp.

Pagel, J. E. 1992. Protocol for Observing Known Potential Peregrine Falcon Eyries in the Pacific Northwest. Pages 83-96 in J.E. Pagel, editor. Proceedings of a symposium on peregrine falcons in the Pacific Northwest. United States Forest Service, Medford, Oregon. 125 pp.

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MEMORANDUM

DATE: November 3, 2003

TO: Nancy Lee and David Leal - USFWS

FROM: Bob Carson and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Vernal Pool Fairy Shrimp (*Branchinecta lynchi*) Effect Screening Layer

INTRODUCTION

On September 19, 1994 the vernal pool fairy shrimp was listed as threatened throughout all of its range (59 FR 48136). Critical habitat has been designated for this species (68 FR 46683).

DATA LAYER USED

- United States Fish and Wildlife Service (National Wetland Inventory) Spring 1999 Vernal pools identified by United States Fish and Wildlife Service that may or may not harbor endangered fairy shrimp. Data layer was obtained from Jackson County GIS website (Jackson County 2003).
- National Resources Conservation Service Soil Survey Geographic (SSURGO) database for Jackson County Area, Oregon, Parts of Jackson and Klamath Counties Agate-Winlo Complex Soils (0-5 percent slope). September 22, 2000.

BIOLOGICAL SIGNIFICANCE

According to the Federal Register (68 FR 46689), the species' distribution in Oregon is limited to a 32 square mile area known as the Agate Desert in Jackson County, north of Medford. Vernal pool fairy shrimp are susceptible to disturbance from direct impacts to their habitat.

ASSUMPTIONS

- All vernal pools have Agate-Winlo Complex soils.
- All vernal pools indicated on the above-referenced mapping are suitable fairy shrimp habitat except those classified as having both "developed hydrology" and "developed vegetation". Such classification indicates that human development via terrain leveling, and removal of native vegetation has eliminated the vernal pools.

GIS PROCESS PROPOSED FOR SCREENING

- OTIA III bridges outside of Jackson County will be documented as having No Effect.
- OTIA III bridges within Jackson County that are not classified as vernal pool habitat, within the Agate-Winlo Complex soil, or are classified as vernal pool habitat but with developed vegetation and developed hydrology, will be documented as having No Effect on vernal pool fairy shrimp.

REFERENCES

Federal Register for September 19, 1994 (59 FR 48136). Determination of Threatened Status for the Vernal Pool Fairy Shrimp. Final Listing.

Federal Register for August 6, 2003 (68 FR 46683). Final Designation of Critical Habitat for 4 Vernal Pool Crustaceans and 11 Vernal Pool Plants in California and Southern Oregon.

Jackson County. 2003. U.S Fish and Wildlife Service National Wetland Inventory Vernal Pools identified by Fish and Wildlife Service that may or may not harbor endangered fairy shrimp Spring 1999. URL: http://smartmap.org/downloads.cfm (October 27, 2003).

National Resources Conservation Service Soil Survey Geographic (SSURGO) database for Jackson County Area, Oregon, Parts of Jackson and Klamath Counties Agate-Winlo Complex Soils (0-5 percent slope). September 22, 2000.

U.S. Fish and Wildlife Service, August 6, 2003, Final Critical Habitat for 15 Vernal Pool Species, Sacramento, California USA.

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MEMORANDUM

DATE: November 3, 2003

TO: Nancy Lee and David Leal - USFWS

FROM: Kendel Emmerson and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Fender's Blue Butterfly (*Icaricia icarioides fenderi)* Effect Screening Layer

INTRODUCTION

Fender's blue butterfly was designated as Endangered throughout its entire range on January 25, 2000 (65 FR 3875).

DATA LAYER USED

1. Willamette Valley Ecoregion
2. Yamhill, Polk, Benton, and Lane Counties

BIOLOGICAL SIGNIFICANCE

Surveys indicated that the Fender's blue butterfly is restricted to the Willamette Valley and currently occupies 32 sites in Yamhill, Polk, Benton, and Lane Counties (65 FR 3877). Adult butterflies lay their eggs on perennial lupine species, which are also the food plant of the caterpillar during May and June. The newly hatched larvae feed for a short time, reaching their second instar in the early summer, at which point they enter an extended diapause (65 FR 3877). Diapausing larvae remain in the leaf litter at or near the base of the host plant through the fall and winter and may become active again in March or April the following year. The Fender's blue butterfly is dependent on the presence of either the federally endangered Kincaid's lupine (*Lupinus sulphureus kincaidii*), spurred lupine (*Lupinus laxiflorus*), or the sickle-keeled lupine (*Lupinus albicaulis*) as their host plant.

ASSUMPTIONS

The Fender's blue butterfly is limited to Yamhill, Polk, Benton, and Lane Counties within the Willamette Valley Ecoregion (65 FR 3877).

GIS PROCESS FOR PROPOSED SCREENING

All bridges located outside of the Willamette Valley Ecoregion will have No Effect on the Fender's blue butterfly. All bridges located within the Willamette Valley Ecoregion, but are outside of Yamhill, Polk, Benton, and Lane Counties will have No Effect on the Fender's blue butterfly.

REFERENCES

Federal Register for January 25, 2000 (65 FR 3875). Endangered and Threatened Wildlife and Plants; Endangered Status for "*Erigeron decumbens*" var. "*decumbens*" (Willamette Daisy) and Fender's Blue Butterfly ("*Icaricia icarioides fenderi*") and Threatened Status for "*Lupinus sulphureus*" ssp. "*kincaidii*" (Kincaid's Lupine). Final Rule.

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MEMORANDUM

DATE: November 17, 2003

TO: Nancy Lee and David Leal - USFWS

FROM: Kendel Emmerson and Zak Toledo - MB&G

SUBJECT: ODOT OTIA III: Oregon Silverspot Butterfly (*Speyeria zerene hippolyta)* Effect Screening Layer

INTRODUCTION

The Oregon silverspot butterfly was listed as threatened and critical habitat designated on July 2, 1980 (45 FR 44935).

DATA LAYER USED

Descriptions and figures of Habitat Conservation Areas (HCA) provided in Oregon silverspot butterfly Recovery Plan (USFWS 2001).

BIOLOGICAL SIGNIFICANCE

The Oregon silverspot butterfly occurs in disjunct sites near the Pacific coast from Del Norte County, California, north to Long Beach Peninsula, Washington (USFWS 2001). The species has been extirpated from 11 localities and is currently know to occur at only 6 sites (USFWS 2001). Oregon silverspot butterflies inhabit early sucessional coastal grasslands with protection from strong coastal winds by topography or forest fringe (TNC 2003). Grassland habitats that support Oregon silverspot butterfly populations are currently known to exist in marine terrace and coastal headland "salt spray" meadows, stabilized dunes, and montane grasslands, which are found in the higher elevations of the Oregon Coast Range (USFWS 2001). In addition to providing suitable environmental conditions, these habitats provide adequate amount of caterpillar host plants and adult nectar sources.

The Oregon silverspot butterfly primary food source is the early blue violet (*Viola adunca*) (TNC 2003). The adult butterfly nectars on members of the aster family including the following native species: Canada goldenrod (*Solidago canadensis*), dune goldenrod (*Solidago spathulata*), California aster (*Aster chilensis*), pearly everlasting (*Anaphalis margaritacea*), dune thistle (*Cirsium edule*) and yarrow (*Achillea millefolium*) (USFWS 2001). Less frequent nectar species include chaparral broom (*Baccharis pilularis*), smooth hawksbeard (*Crepis capillaris*), woolly sunflower (*Eriophyllum lanatum*), and introduced plants such as, thistles (*Cirsium* spp.), tansy ragwort (*Senecio jacobaea*), and false dandelion (*Hypochaeris radicata*) (USFWS 2001).

Extensive surveys of habitat conditions and populations throughout the range of the subspecies were conducted to determine known localities and areas that may potentially support future populations. Using the survey information, Habitat Conservation Areas (HCA) were designated for areas that contain one or more populations, or potential habitat for management of at least

two viable populations of Oregon silverspot butterfly (USFWS 2001). There are six HCA, 4 of these are in Oregon: Clatsop Plains HCA, Coastal Mountain HCA (Mt. Hebo and Fairview Mt.), Cascade Head HCA, and Central Coast HCA. The only critical habitat area designated for Oregon silverspot butterfly is Rock Creek-Big Creek area, which is entirely contained within the Central Coast HCA (45 FR 44935 and USFWS 2001).

ASSUMPTIONS

All localities of the Oregon silverspot butterfly in Oregon are within the four designated HCA's.

GIS PROCESS FOR PROPOSED SCREENING

OTIA III bridges have the potential to adversely impact Oregon silverspot butterfly through ground disturbance activities which may introduce or promote invasive species or alter the microclimate of the habitat (i.e., removal of forested fringes adjacent to the grassland habitat may increase exposure to winds). All OTIA III bridges API greater than 0.5 miles from an Oregon silverspot butterfly HCA will be documented as having No Effect on Oregon silverspot butterfly.

REFERENCES

Federal Register for July 2, 1980 (45 FR 44935). Listing the Oregon Silverspot Butterfly as a Threatened Species with Critical Habitat. Final Rule.

The Nature Conservancy (TNC). 2003. U.S. Fish and Wildlife Service Seventh Annual Report – Permit #TE-804885-7. Enhancement of Survival Permit for Threatened Wildlife Oregon silverspot butterfly (*Speyeria zerene hippolyta*). Unpublished report of The Nature Conservancy, Otis, Oregon. 16pp.

United States Fish and Wildlife Service (USFWS). 2001. Oregon silverspot butterfly (*Speyeria zerene hippolyta*) revised recovery plan. U.S Fish and Wildlife Service, Portland, Oregon. 113 pp + appendices.